



Federal Communications Commission  
Washington, D.C. 20554

August 20, 2014

**DA 14-1195**  
**ET Docket No. 13-49**

Mr. David Don  
Comcast Corporation  
300 New Jersey Avenue, NW Suite 700  
Washington, D.C. 20001

Dear Mr. Don:

The Office of Engineering and Technology (OET) is granting the request of Comcast Corporation (Comcast) for a waiver of Section 15.407(a)(1)(i)<sup>1</sup> of the Commission's rules to allow its existing systems that were previously certified for operation in the 5725-5850 MHz (U-NII-3) band to obtain FCC certification for operation in the 5150-5250 MHz (U-NII-1) band.

In your letter filed July 29, 2014 you request that Comcast's outdoor access points currently authorized to operate in the U-NII-3 band be permitted to operate outdoors in the U-NII-1 band with up to 250 mW of conducted power and a power spectral density of 11 dBm/MHz with a 6 dBi gain antenna, rather than limiting the maximum EIRP above 30 degrees elevation to 125 mW (21 dBm) EIRP as required by section 15.407(a)(1)(i). You state such a waiver would serve the public interest by providing Comcast with immediate flexibility to use the U-NII-1 band, in addition to the U-NII-3 band, to provide outdoor Wi-Fi access to its customers.<sup>2</sup> You further state that Comcast has 20,820 deployed outdoor access points certified to operate in the U-NII-3 band. You also provide the general location of each of Comcast's deployments by state, and request confidential treatment for this information under separate cover.<sup>3</sup> You assert that the location, but not the total number, of deployments may change depending on the business needs in each region, and you request that Comcast be permitted to update OET when it makes a location change for these access points.<sup>4</sup> You also

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<sup>1</sup> See 47 C.F.R § 15.407 (a)(1)(i).

<sup>2</sup> See Comcast Corporation Petition for Waiver of Section 15.407(a)(1)(i) of the FCC's Rules for Outdoor Access Points Operating in the U-NII-1 Band-SUPPLEMENT(Supplemental Request) dated July 29, 2014, from David Don, Comcast Corporation. On July, 2 2014, Comcast submitted a Petition for Waiver of Section 15.407(a)(1)(i) for currently deployed devices and yet-to-be deployed devices. The Supplemental Request clarifies Comcast's initial waiver request by specifying the number of devices that are currently deployed in the field.

<sup>3</sup> See Comcast Corporation Petition for Waiver of Section 15.407(a)(1)(i) of the FCC's Rules for Outdoor Access Points Operating in the U-NII-1 Band-Confidential Treatment Requested, dated July 29, 2014, from David Don, Comcast Corporation.

<sup>4</sup> See Supplemental Request at 3.

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confirm that Comcast has the ability to configure attenuation settings, and therefore can cause the device to operate below its maximum authorized transmit power.<sup>5</sup> Finally, you state Comcast could reduce the transmit power, disable the 5 GHz radio, or prevent access by client devices, all from its central network management system.<sup>6</sup>

In the *First Report and Order (First R&O)* in U-NII 5 GHz proceeding, the Commission adopted rule Section 15.407(a)(1)(a) which allows fixed outdoor access points in the U-NII-1 band at a maximum conducted output power level not to exceed 1 W and a PSD not to exceed 17 dBm/MHz with an allowance for a 6 dBi antenna gain; the rule limits the maximum EIRP to 125 mW (21 dBm) at any elevation angle above 30 degrees measured from the horizon.<sup>7</sup> In other words, each outdoor access point must limit the energy directed upward so that, in the aggregate, they would avoid causing interference to satellites operating in the U-NII-1 band.<sup>8</sup> The Commission recognized that some U-NII-3 fixed access points already deployed could potentially be reprogrammed to meet the new U-NII-1 power limits and thus quickly begin more flexible operation in the U-NII-1 band using this existing equipment.<sup>9</sup> The Commission stated that, if outdoor U-NII-3 band systems installed prior to the effective date of the new rules were not able to comply with the 125 mW EIRP requirements of Section 15.407(a)(1)(i) to limit energy directed upward, manufacturers or equipment operators could file for a waiver of this provision for operation in the U-NII-1 band,<sup>10</sup> no later than 30 days after of the effective date of the new rules. The Commission stated that if the waiver is designed to enable existing deployments to operate with up to 250 mW of conducted power and a PSD of 11 dBm/MHz with a 6 dBi gain antenna, the Commission could make a quick and likely favorable good cause determination sufficient to grant the waiver request.

The Commission asked for the following information about the petitioner's existing deployments to assess the waiver requests: the number of devices installed, general location of each deployment, ability to reprogram the devices, and ability to adjust operating power from a central network management system. The Commission concluded that waiver requests meeting these parameters and made within a short period of time are likely to serve the public interest because granting them is highly unlikely to create any risk of harmful interference, given the small numbers involved and the limited departure from the new

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<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> See, *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, First Report and Order*, ET Docket No. 13-49, 29 FCC Rcd. 4127 (2014) (*First R&O*) at 4138.

<sup>8</sup> *Id.* at 4138.

<sup>9</sup> *Id.* at 4139.

<sup>10</sup> *Id.* at 4139 – 4140. See also 47 C.F.R. § 1.3. See also *WAIT Radio v. FCC*, 418 F.2d 1153 (1969).

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technical requirements for the U-NII-1 band.<sup>11</sup> In addition, the comparatively small number of installed devices strongly suggests a negligible risk of harmful interference from allowing this exception and the expedient approval of such waivers would benefit the public by promptly and efficiently expanding broadband use in this band.<sup>12</sup> The Commission delegated authority to the Office of Engineering and Technology to consider and act on all such waiver petitions received within 30 days of the effective date of the new rules, *i.e.*, June 2, 2014.<sup>13</sup>

We find that the information you provide regarding the existing deployed systems satisfies the requirements the Commission outlined in the *First R&O* for OET to act on your waiver request, and we conclude that a waiver of Section 15.407 (a)(1)(i) is in the public interest. That is, these currently deployed systems should not pose a threat of harmful interference to the incumbent services in the U-NII-1 band because, as you represent, these systems can be configured for operation in the U-NII-1 band at the 250 mW operational parameters and these systems can be configured to reduce the transmit power, disable the 5 GHz radio, or prevent access by client devices, from a central network management system. This waiver applies only to the 20,820 outdoor access points systems at the locations that you identify as being installed in the field as of June 2, 2014, and does not apply to any future deployments. If you need to change the location, but not the total number, of your deployments, please provide OET with the modified deployment information. You must demonstrate compliance with the technical requirements through the equipment certification process by filing a permissive change request along with a copy of the approved waiver.

Accordingly, pursuant to the delegated authority in Sections 0.31 and 0.241 of the Commission's rules and Section 1.3 of the Commission's rules, 47 C.F.R. §§ 0.31, 0.241, 1.3, we waive the requirements of Section 15.407(a)(1)(i) of our rules to allow Comcast Corporation to obtain FCC certification, consistent with the terms of this waiver, for the U-NII-3 band outdoor access points you have identified to operate in the U-NII-1 band with up to 250 mW of conducted power and a PSD of 11 dBm/MHz with a 6 dBi antenna gain.

Sincerely,

Julius P. Knapp  
Chief  
Office of Engineering and Technology

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<sup>11</sup> See *First R&O* at 4139.

<sup>12</sup> *Id.* at 4140.

<sup>13</sup> *Id.*